CLAIMS

What is claimed is:

1. A composite structure, comprising:

a polymeric foam substrate; and

a latex layer formed on at least a portion of a surface of the polymeric foam substrate, wherein the latex layer infiltrates into at least a portion of a subsurface layer of the polymeric foam substrate.

2. The invention according to claim 1, wherein the composite structure is substantially cylindrical.

3. The invention according to claim 1, wherein the polymeric foam substrate includes an area defining an opening extending axially therethrough.

4. The invention according to claim 3, wherein the opening is operable to receive an axle member.

5. The invention according to claim 1, wherein the polymeric foam substrate is comprised of a hydrophilic material.

6. The invention according to claim 1, wherein the latex layer is comprised of a hydrophilic material.

7. The invention according to claim 1, wherein the polymeric foam substrate is comprised of a material selected from the group consisting of polyurethanes, ethylene/vinyl

acetate copolymers, latexes, polyethylenes, polypropylenes, butyl-containing compounds, silicones, cellulose acetates, neoprenes, epoxies, polystyrenes, phenolic-containing compounds, polyvinyl chlorides, and combinations thereof.

8. The invention according to claim 1, wherein the latex layer is comprised of a material selected from the group consisting of styrene-butadienes, nitrile-butadienes, natural rubbers, natural latexes, and combination thereof.

9. The invention according to claim 1, wherein the latex layer is applied to the polymeric foam substrate in a substantially liquid form.

10. The invention according to claim 1, wherein the latex layer is allowed to substantially cure after being applied to the polymeric foam substrate.

11. A composite structure, comprising:

a polymeric foam substrate; and

a latex layer disposed on at least a portion of a surface of the polymeric foam substrate.

12. The invention according to claim 11, wherein the composite structure is substantially cylindrical.

13. The invention according to claim 11, wherein the polymeric foam substrate includes an area defining an opening extending axially therethrough.

14. The invention according to claim 13, wherein the opening is operable to receive an axle member.

15. The invention according to claim 11, wherein the polymeric foam substrate is comprised of a hydrophilic material.

16. The invention according to claim 11, wherein the latex layer is comprised of a hydrophilic material.

17. The invention according to claim 11, wherein the polymeric foam substrate is comprised of a material selected from the group consisting of polyurethanes, ethylene/vinyl acetate copolymers, latexes, polyethylenes, polypropylenes, butyl-containing compounds, silicones, cellulose acetates, neoprenes, epoxies, polystyrenes, phenolic-containing compounds, polyvinyl chlorides, and combinations thereof.

18. The invention according to claim 11, wherein the latex layer is comprised of a material selected from the group consisting of styrene-butadienes, nitrile-butadienes, natural rubbers, natural latexes, and combination thereof.

19. The invention according to claim 11, wherein the latex layer infiltrates into at least a portion of a subsurface layer of the polymeric foam substrate.

20. The invention according to claim 11, wherein the latex layer is disposed on the polymeric foam substrate in a substantially liquid form.

21. The invention according to claim 11, wherein the latex layer is allowed to substantially cure after being disposed on the polymeric foam substrate.

22. A system for forming a composite structure, comprising:

a platform member;

a conveyor belt system in physical cooperation with the platform member;

a latex material delivery system in fluid communication with the platform member; and

at least one latex material source in fluid communication with the latex material delivery system.

23. The invention according to claim 22, wherein the platform member is angled.

24. The invention according to claim 22, wherein the conveyor belt system comprises at least one roller member and a belt member.

25. The invention according to claim 22, wherein the latex material delivery system comprises a pump system.

26. The invention according to claim 22, wherein the latex material delivery system comprises a manifold system.

27. The invention according to claim 22, wherein the conveyor belt system is operable to receive a polymeric foam substrate.

28. The invention according to claim 27, wherein the conveyor belt system is operable to manipulate the polymeric foam substrate so as to cause the latex material to adhere to a surface thereof.

29. The invention according to claim 27, wherein the latex material is applied to the polymeric foam substrate in a substantially liquid form.

30. The invention according to claim 27, wherein the latex material is allowed to substantially cure after being applied to the polymeric foam substrate.

31. A method for forming a composite structure, comprising:

providing a polymeric foam substrate;

providing a latex material; and

applying the latex material to at least a portion of a surface of the polymeric foam substrate.

32. The invention according to claim 31, wherein the composite structure is substantially cylindrical.

33. The invention according to claim 31, wherein the polymeric foam substrate includes an area defining an opening extending axially therethrough.

34. The invention according to claim 33, wherein the opening is operable to receive an axle member.

35. The invention according to claim 31, wherein the polymeric foam substrate is comprised of a hydrophilic material.

36. The invention according to claim 31, wherein the latex material is comprised of a hydrophilic material.

37. The invention according to claim 31, wherein the polymeric foam substrate is comprised of a material selected from the group consisting of polyurethanes, ethylene/vinyl acetate copolymers, latexes, polyethylenes, polypropylenes, butyl-containing compounds, silicones, cellulose acetates, neoprenes, epoxies, polystyrenes, phenolic-containing compounds, polyvinyl chlorides, and combinations thereof.

38. The invention according to claim 31, wherein the latex material is comprised of a material selected from the group consisting of styrene-butadienes, nitrile-butadienes, natural rubbers, natural latexes, and combination thereof.

39. The invention according to claim 31, wherein the latex material infiltrates into at least a portion of a subsurface layer of the polymeric foam substrate.

40. The invention according to claim 31, wherein the latex material is disposed on the polymeric foam substrate in a substantially liquid form.

41. The invention according to claim 31, wherein the latex material is allowed to substantially cure after being disposed on the polymeric foam substrate.